

5 **METHOD AND SYSTEM USING ACOUSTIC EJECTION FOR**
 PREPARING AND ANALYZING A CELLULAR SAMPLE SURFACE

ABSTRACT OF THE DISCLOSURE

10

 The invention relates to a method and system for acoustically depositing a fluid
 on a surface of a cell sample. A reservoir containing a fluid is provided, and the cell
 sample surface is positioned in droplet-receiving relationship to the reservoir. Once the
 reservoir and the cell sample surface are appropriately positioned, focused acoustic
15 energy is applied to eject a droplet of the fluid from the reservoir. As a result, the droplet
 is deposited on the sample surface at a designated site. Optionally, the fluid may be an
 analysis-enhancing fluid that contains a label moiety or a mass- spectrometry matrix
 material. When an analysis-enhancing fluid is used, the sample is typically subjected to
 conditions effective to allow the analysis-enhancing fluid to interact with the sample
20 surface so as to render the sample surface suitable for analysis. Then, the sample may be
 analyzed at the designated site.